



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,145	12/23/2005	Kenichi Morimoto	0951-0178PUS1	5521
2292 7590 10/28/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
HA, NGUYEN Q				
ART UNIT		PAPER NUMBER		
2854				
NOTIFICATION DATE		DELIVERY MODE		
10/28/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

# Office Action Summary

## Application No.

10/562,145

## Applicant(s)

MORIMOTO ET AL.

## Examiner

'Wyn' Q. HA

## Art Unit

2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2,4,6-14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,4,6-14 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-083)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 2, 6-8, 12-14 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Irihara (JP 2002193559 A) in view of Momose (JP 2002046309 A).

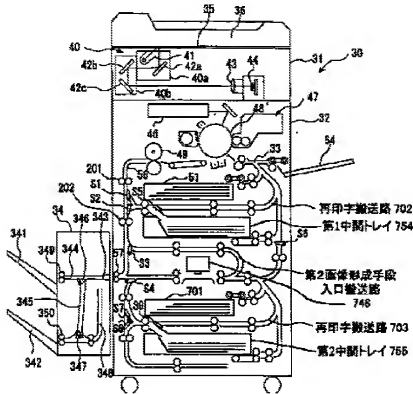
#### Claim 2:

Irihara, cited in the Office action of 3/26/2008, teaches an image forming apparatus 30 (Fig. 1, reproduced below) comprising a recording paper transport system that transports recording paper and an image forming system 48 that forms an image on recording paper transported by the recording paper transport system.

The image forming apparatus is provided with a **“straight pass type printing system”** comprising a manual paper feed device 54, having one or more movable feed members (feed rollers shown in fig. 1), and a **“front feeding type printing system,”** having a paper feed cassette 51 and one or more movable feed members that supply recording paper by making contact with recording paper that has been placed on one or more placement stages and

extracting that recording paper from the placement stages with frictional force between the feed member and the contacted recording paper and transport the recording paper to the image forming system 48, wherein:

【図1】



the placement stages include a first placement stage in which the contact face of the recording paper contacted by the feed member (the feed roller of the manual paper feed device 54, shown in fig. 1) is the image forming face, and a second placement stage in which the contact face of the recording paper contacted by the feed member (the feed roller of the cassette paper feed device 51, shown in fig.1) is not the image forming face.

In the mentioned first placement stage, and in a case that multi-feeding has occurred in which when a first recording paper is transported by the recording paper transport system another recording paper is also transported, the other recording paper is not positioned between the first recording paper and the image forming portion 48 of the image forming system.

In the mentioned second placement stage, and in a case that multi-feeding has occurred in which when a first recording paper is transported by the recording paper transport system another recording paper is also transported, the other recording paper is positioned between the first recording paper and the image forming portion 48 of the image forming system.

Irihara doesn't teach the following features:

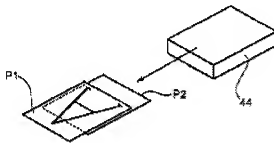
when, in the case that multi-feeding has occurred in which when a first recording paper is transported by the recording paper transport system another recording paper is also transported, and the other recording paper is not positioned between the first recording paper and an image forming portion of the image forming system, image forming processing for the first recording paper by the image forming system is continued, and

when, in the case that multi-feeding has occurred in which when a first recording paper is transported by the recording paper transport system another recording paper is also transported, and the other recording paper is positioned between the first recording paper and an image forming portion of the image

forming system, image forming processing for the first recording paper by the image forming system is prohibited.

Momose, as cited in the Office action of 3/26/2008, teaches an image forming apparatus having the features not taught by Irihara, which are:

【図 14】

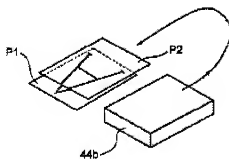


when, in the case that multi-feeding has occurred in which when a first recording paper P1 (See fig. 14, reproduced above) is transported by the recording paper transport system another recording paper P2 is also transported, and the other recording paper P2 is not positioned between the first recording paper P1 and an image forming portion of the image forming system, image forming processing for the first recording paper by the image forming system is continued (Paragraph 0054: "If a double feed occurs with a **straight pass type printer**...printing will be performed only to the top print sheet P1"), and

when, in the case that multi-feeding has occurred in which when a first recording paper P1 (See fig. 15, reproduced below) is transported by the recording paper transport system another recording paper P2 is also transported, and the other recording paper P2 is positioned between the first recording paper

P1 and an image forming portion of the image forming system, image forming processing for the first recording paper P1 by the image forming system is prohibited (Paragraphs 0055 – 0059: “If a double feed occurs with a **front feeding type printer**...printing would be performed over the print sheet P2 located in the top here, and the print sheet P1 located in the bottom. For this reason, if a double feed occurs, it would be a printing mistake (as shown in fig. 15)...[Thus] when the transmission and reception section receives double feed error status...transmission of the print command is suspended...The integrated management department displays a preview screen and a page guide on the user interface and displays the purport of double feed.” Paragraph 0071: “after the stop of print operation and transmission of double feed error status and the double feed error judgment part, resumption of printing by a user performing re-setting of a print sheet and the feed button of the printer being pushed, etc).

【図15】



It would have been obvious to one of ordinary skill in the art at the time the present invention was made to have Irihara's image forming apparatus perform the features taught by Momose, which are:

when, in the case that multi-feeding has occurred in which when a first recording paper is transported by the recording paper transport system another recording paper is also transported, and the other recording paper is not positioned between the first recording paper and an image forming portion of the image forming system, image forming processing for the first recording paper by the image forming system is continued, and

when, in the case that multi-feeding has occurred in which when a first recording paper is transported by the recording paper transport system another recording paper is also transported, and the other recording paper is positioned between the first recording paper and an image forming portion of the image forming system, image forming processing for the first recording paper by the image forming system is prohibited,

in order to prevent a printing mistake, in view of Momose.

Claim 6:

Irihara in view of Momose teaches an image forming apparatus provided with all that is claimed (See discussion in claim 2).

Claim 7:

Irihara in view of Momose teaches the image forming apparatus according to claim 2, wherein **a detector 56** (Momose's) that detects multi-feeding of the first recording paper and the other recording paper is provided between the placement stage of the recording paper and the image forming portion of the



image forming system (Momose paragraph 0006: "a double feed detection means 56 to detect a double feed error in the state where print sheets overlap").

Claim 8:

Irihara in view of Momose the image forming apparatus according to claim 7, wherein the detector 56 detects multi-feeding by detecting an edge portion of the multi-fed other recording paper (Momose paragraphs 0031 & 0032: "the paper length sensor 56...measures form height [ i.e. recording paper length measured from a leading edge to a trailing edge] from the amount of form fed by the feed roller 54...When the print sheet length measured is longer than the applicable page printing form height...the double feed judgment part judges that the double feed was carried out").

Claim 12:

Irihara in view of Momose teaches the image forming apparatus according to claim 2, wherein a trailing edge detector 56 is provided that detects the (leading edge and) trailing edge of the recording paper, and

when image formation is performed in the case that multi-feeding has occurred, a reference for judging the occurrence of defects based on the detection information of the trailing edge of the recording paper from the trailing edge detector is changed to a reference taking into consideration the extent of multi-feeding (as discussed in claim 8).

Art Unit: 2854

## Claim 13:

Irihara in view of Momose teaches the image forming apparatus according to claim 7, wherein a notifier is provided that, in the case that multi-feeding has been detected by the detector, makes such a notification (Momose Abstract "In the case a transceiver part 66 of the printer host 10 receives the duplicate dispatch error status, a user interface 68 makes a display device 12 display the duplicate dispatch error generation").

## Claim 14:

Irihara in view of Momose teaches the image forming apparatus according to claim 13, wherein the notifier makes a notification of information of the recording paper for which image formation could not be performed due to multi-feeding (Momose Para 0029: "Please remove the paper which is not printed out of the paper to which paper was delivered, and resume printing." "Please take out the paper with which only one side is printed out of the paper to which paper was delivered, and set the paper the top on a paper feed tray").

## Claim 16:

Irihara in view of Momose teaches an electronic equipment, wherein the image forming apparatus according to claim 2 is a scanner apparatus, copy apparatus, or facsimile apparatus, or a multifunction machine in which any two or more of these are combined (Irihara's fig. 1).

**Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over Irihara in view of Momose, as applied to claim 2, and further in view of Yoshimoto (JP 05088564 A).

Irihara in view of Momose teaches the image forming apparatus having all the claimed features, except for a transfer bias being increased from a normal transfer bias when performing image formation in the case that multi-feeding has occurred.

Yoshimoto, cited in the Office action of 3/26/2008, teaches an image forming apparatus, in which a transfer bias is increased from the normal transfer bias when performing image formation in the case that multi-feeding has occurred, in order to sufficiently transfer toner to produce a good image, thus prevent waste of paper that might otherwise receive a poor image onto it (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the present invention was made to have Irihara's apparatus (modified by Momose) increase a transfer bias from the normal transfer bias when performing image formation in the case that multi-feeding has occurred, in order to sufficiently transfer toner to produce a good image, thus prevent waste of paper that might otherwise receive a poor image onto it, in view of Yashimoto.

**Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Irihara in view of Momose, as applied to claim 2, and further in view of Nakagawa (JP 07295311 A).

Irihara in view of Momose teaches the image forming apparatus comprising all the claimed features, except for a fixing temperature being increased from a normal fixing temperature when performing image formation in the case that multi-feeding has occurred.

Nakagawa, cited in the Office action of 3/26/2008, teaches an image forming apparatus, in which a fixing temperature is increased from a normal fixing temperature when performing image formation in the case that the recording paper is thick, in order to provide an excellent image (Abstract).

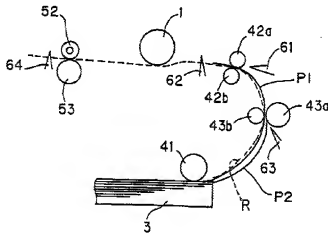
It would have been obvious to one of ordinary skill in the art at the time the present invention was made to have Kobayashi's apparatus (modified by Momose) increase a fixing temperature from a normal fixing temperature when performing image formation in the case that multi-feeding has occurred (because the doubly fed recording papers are virtually thicker than a singly fed paper), in order to provide excellent image, in view of Nakagawa.

**Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Irihara in view of Momose, as applied to claim 2, and further in view of Morishita et al. (US 5,485,247).

Irihara in view of Momose teaches the image forming apparatus comprising all the claimed features, except for when image formation is performed in the case that multi-feeding has occurred, the detection information of the trailing edge of the recording paper from the trailing edge detector is treated as void.

Morishita, cited in the Office action of 3/26/2008, teaches an image forming apparatus having a trailing edge detector 61 (Col. 4 lines 55-56 "when the trailing edge of the paper sheet passes through the first paper detecting switch 61"), and when image formation is performed in the case that multi-feeding has occurred, the detection information of the trailing edge of the recording paper from the trailing edge detector is treated as void, in order to improve reliability of jam detection even if a multi-feeding has occurred.

Morishita's col. 3 lines 1-14: "Even if a duplicate paper feeding state occurs, it is not judged that a paper jam has occurred only by the fact that a duplicate paper feeding state has occurred.



Specifically, when the paper sheets pass through the registration roller one at a time, it is not erroneously judged that a paper jam has occurred. It is possible to satisfactorily feed all the plurality of paper sheets, which are simultaneously fed in a duplicate paper feeding state, to the image forming section. Therefore, the reliability of the judgment that a paper jam has occurred is improved. In addition, it is possible to save the wasted time and labor of correcting the erroneous

Art Unit: 2854

judgment that a paper jam has occurred. Furthermore, it is possible to reliably use the intact paper sheets for forming an image, so that paper sheets are not wasted.”

It would have been obvious to one of ordinary skill in the art at the time the present invention was made to have Kobayashi’s apparatus (modified by Momose) perform the following: when image formation is performed in the case that multi-feeding has occurred, the detection information of the trailing edge of the recording paper from the trailing edge detector is treated as void;

in order to improve reliability of jam detection even if a multi-feeding has occurred, in view of Morishita.

**Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Irihara in view of Momose, and Kobayashi (JP 07125351 A).

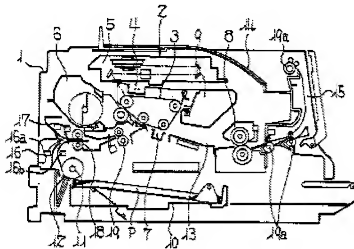
Irihara in view of Momose (See claim 1 above) teaches an image forming apparatus provided with all the features being claimed, except for the following:

when, in the case that multi-feeding has occurred in which when a first recording paper is transported by the feed member another recording paper is also supplied, and the first recording paper has been fed from the second replacement stage, image forming processing for the other recording paper by the image forming system is continued.

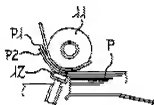
Kobayashi, cited in the Office action of 3/26/2008, teaches an image forming apparatus (Fig. 2, reproduced below) provided with a “**front feeding type printing system**” comprising a paper feed cassette 10 having one or more

movable feed members 11 (feed roller 11) that supply recording paper P by making contact with recording paper P that has been placed on one or more placement stages and extracting that recording paper P from the placement stages with frictional force between the feed member 11 and the contacted recording paper P and transport the recording paper to the image forming system 48, wherein:

【図2】



【図3】



when, in the case that multi-feeding has occurred in which when a first recording paper P1 (Fig. 3, reproduced above) is transported by the feed member 11 another recording paper P2 is also supplied, and the contact face of the first recording paper contacted by the feed member is not the image forming

Art Unit: 2854

face, image forming processing for the other recording paper by the image forming system is continued (Abstract "A detection signal is supplied from the multi-feeding detector when two or more papers overlap. Based on the measured distance, the output timings of the main scanning direction or sub scanning direction signal is changed so that the image is printed only on the last paper P2 among the papers which overlap with each other").

Note that the feed member 11 doesn't contact image forming face of the recording paper P1 (or P2) since the image forming system 6 forms an image on the other face of the paper (See fig. 2).

It would have been obvious to one of ordinary skill in the art at the time the present invention was made, in view of Kobayashi, to have Momose's multi-feeding detector 56 (See claims 7, 8 and 12 above) also measure a sheet distance. Based on the measured sheet distance, the output timings of the main scanning direction or sub scanning direction signal is then changed so that the image is printed only on the other (last paper) P2 among the papers which overlap with each other. As such, in the case that multi-feeding has occurred in which when a first recording paper P1 is transported by the feed member another recording paper P2 is also supplied, and the first recording paper P1 has been fed from the second replacement stage, image forming processing for the other recording paper P2 by the image forming system is continued. As a result, an image would always be properly printed regardless of any double-sheet feeding. Operability of Irihara's image forming apparatus is thus further enhanced.

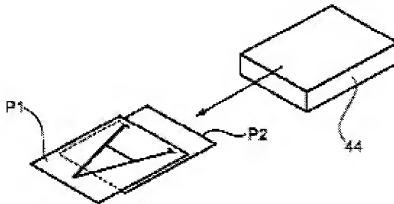


***Response to Arguments***

Applicant's arguments filed on 7/23/2008 have been fully considered but they are not persuasive of any examination error. As discussed in the above rejections, the previously cited prior art references teach all the claims. Contrary to Applicant's remarks, Momose does teach fault recovery conditions for the two recording paper placement stages being claimed in claim 2 (See the rejection of claim 2 above and further discussion below).

In the first placement stage (See Momose's fig. 14, reproduced again below), the contact face of the recording paper P1, fed out from a paper stack or tray 44 in a **straight pass type printing system**, contacted by a feed roller is the image forming face. Printing is continued as being claimed.

【 14】



**MOMOSE'S FIG. 14**

As of the same thing, according to Application's specification, the first placement stage corresponding to Momose's straight pass type printing system is shown in Application's fig. 3, reproduced below; and printing is continued in case of a multi-feeding since an image is fully printed on the recording paper P1, as shown in Application's fig. 7(a), reproduced below.

FIG.3

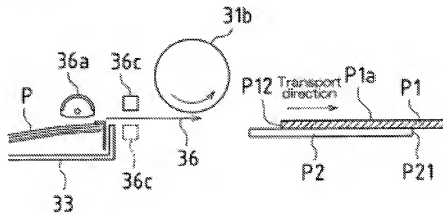
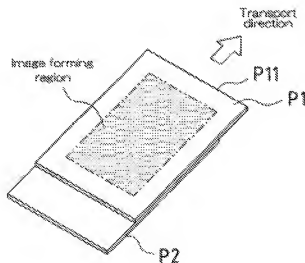


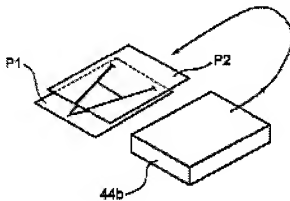
FIG.7 (a)



APPLICATION'S FIGS. 3 & 7(a)

In the second placement stage (See Momose's fig. 15, reproduced again below), the contact face of the recording paper P1, fed out from a paper stack or tray 44b in a **front feeding type printing system**, contacted by a feed roller is not the image forming face. Printing is inhibited as being claimed.

【図 15】



MOMOSE'S FIG. 15

As of the same thing, according to Application's specification, the second placement stage corresponding to Momose's front feeding type printing system is shown in Application's fig. 4, reproduced below; and printing is inhibited in case of a multi-feeding since an image is not fully printed on either the recording paper P1 or P2, as shown in Application's fig. 7(b), reproduced below.

FIG. 4

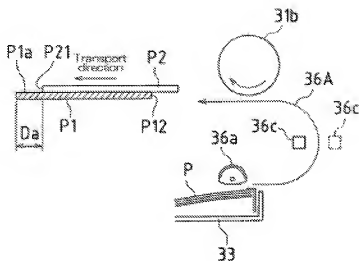
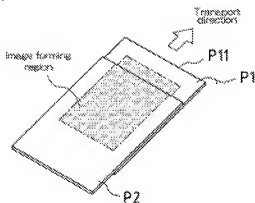


FIG. 7 (b)

**MOMOSE'S FIGS. 4 & 7(b)**

With respect to Applicant's request for English translations of all the cited foreign references Irihara, Momose, Yoshimoto and Kobayashi, please note that the translations are readily available through Japan Patent Office website

<http://www19.ipdl.inpit.go.jp/PA1/cgi-in/PA1INIT?1175369901066>.

### ***Conclusion***

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to 'Wyn' Q. HA whose telephone number is (571)272-2863. The examiner can normally be reached on Monday - Friday, from 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2854

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NQH

/Jill E. Culler/  
Primary Examiner, Art Unit 2854